# Benefit Formula – Final Average Compensation

## Initial Consideration

WASHINGTON STATE
Law Enforcement Officers' and Fire Fighters'
Plan 2 Retirement Board

Date: July 27, 2005

# Benefit Formula

- Typical DB plan formula
  - Years of Service
  - Average Salary
  - Multiplier

- LEOFF Plan 2
  - 2% × Years of Service × Final Average Salary

# Final Average Salary

- Uses a predetermined number of months or years to calculate a final average salary.
- Generally, the shorter the period, the higher the calculation. Especially true as wages rise over time.
- Another integral part of final average salary is what is included in the definition of salary.

# Calculation Period

- LEOFF Plan 2 uses the highest consecutive sixty-service credit months (5 years).
- PERS Plans 2 & 3, TRS Plans 2 & 3, SERS Plans 2 & 3, WSPRS Plan 2 and PSERS all use the highest consecutive sixty service credit months (5 years).
- PERS Plan 1 uses any consecutive two year period of service credit months.
- TRS Plan 1 uses the two highest compensated consecutive years of service (school years).

# Calculation Period Continued

- LEOFF Plan 1 uses the last month if the member has held the same rank or position for the last 12 months. If they have held the position for less than 12 months, then the formula uses the highest consecutive 24-month period out of the last 10 years.

- WSPRS Plan 1 uses the greater of the last two years of service or any consecutive two-year period.

# Calculation Period in Other States

- 2004 study of “State Police” plans by *Workplace Economics, Inc.* found the average time period was three highest years.
- A review of 19 state pension plans with both police and fire fighters indicate 16 use either the highest three consecutive years or the highest three out of the last ten or five.
- In a broader study on public safety retirement plans conducted by the Oklahoma Public Employees Retirement system over 60% of the plans use some sort of 3-year variation.

# Elements Included in Salary

- Overtime, lump sum payments for deferred annual sick leave, unused accumulated vacation, unused annual leave, holiday pay and severance pay are the most common elements included in basic salary.

- LEOFF Plan 2 uses salaries or wages and overtime, including salary or wages deferred under 403(b), 414(h) or 457 plans.

# Salary Elements of Other Plans

- LEOFF Plan 1 uses the basic monthly rate of salary or wages, including longevity pay, but does not include overtime.
- PERS Plan 1 and TRS Plan 1 use the same elements as LEOFF Plan 2 plus vacation leave cashouts.
- PERS Plans 2 & 3, TRS Plans 2 & 3, SERS Plans 2 & 3, WSPRS Plan 2 and PSERS all use the same basic elements as LEOFF 2.

Questions?

# Changing the 5-Year FAS Period in LEOFF 2

Marty McCaulay
Office of the State Actuary
July 6, 2005

# Compensation

- Salary plus overtime and deferred compensation
- Excludes lump sum payments for sick, vacation, and annual leave
- Excludes severance pay

# 5-Year FAS Period

- Current formula uses 5-year final average salary (FAS)
- Average compensation for highest 60 consecutive months
- Benefit = 2% x service x FAS

# 5-Year FAS Period

- Benefit = 2% x service x FAS
- Example:  25 years of service
- 5-year pay history - $60,000; $56,000, $52,000; $51,000; $51,000
- 5-year FAS = $54,000
- Annual benefit = 2% x 25 x $54,000 = $27,000

# 3-Year FAS Period

- Proposed 3-year final average salary
- Benefit = 2% x service x FAS
- Example:  25 years of service
- 3-year pay history - $60,000; $56,000; $52,000
- 3-year FAS = $56,000
- Annual benefit = 2% x 25 x $56,000 = $28,000

# 2-Year FAS Period

- Proposed 2-year final average salary
- Benefit = 2% x service x FAS
- Example:  25 years of service
- 2-year pay history - $60,000; $56,000
- 2-year FAS = $58,000
- Annual benefit = 2% x 25 x $58,000 = $29,000

# FAS with 4.5% Increases

| | FAS 5 | FAS 3 | FAS 2 |
|---|---|---|---|
| 2004 | $69,000 | $69,000 | $69,000 |
| 2003 | $66,029 | $66,029 | $66,029 |
| 2002 | $63,185 | $63,185 | |
| 2001 | $60,464 | | |
| 2000 | $57,861 | | |
| Average | $63,308 | $66,071 | $67,514 |

# FAS with 4.5% Increases

- Current pay $69,000
- 5-year FAS = $63,308
- 3-year FAS = $66,071
- 4.4% greater than 5-year FAS
- 2-year FAS = $67,541
- 6.6% greater than 5-year FAS

# FAS 2 Rate Increase

- Liabilities increase 6.7% or $320 million
- Rate increase = liability increase / PVFS
- PVFS = Present Value of Future Salaries
- $0.320 billion / $12 billion = 2.64%
- 1.32% member
- 0.79% employer
- 0.53% state

# FAS 3 Rate Increase

- Liabilities increase 4.4% or $211 million
- Rate increase = liability increase / PVFS
- PVFS = Present Value of Future Salaries
- $0.211 billion / $12 billion = 1.74%
- 0.87% member
- 0.52% employer
- 0.35% state

# FAS 2 – Future Service

- Proposed 2-year final average salary
- Future service only
- FAS 5 before effective date of change
- Example:  10 years of past service, 15 years of future service
- FAS 2 = $58,000, FAS 5 = $54,000
- Annual benefit = (2% x 10 x $54,000) + (2% x 15 x $58,000) = $28,200

# FAS 3 – Future Service

- Proposed 3-year final average salary
- Future service only
- FAS 5 before effective date of change
- Example:  10 years of past service, 15 years of future service
- FAS 3 = $56,000, FAS 5 = $54,000
- Annual benefit = (2% x 10 x $54,000) + (2% x 15 x $56,000) = $27,600

# FAS 2 Future Service Rate Increase

- Liabilities increase 3.2% or $155 million
- Rate increase = liability increase / PVFS
- PVFS = Present Value of Future Salaries
- $0.155 billion / $12 billion = 1.28%
- 0.64% member
- 0.38% employer
- 0.26% state

# FAS 3 Future Service Rate Increase

- Liabilities increase 3.2% or $102 million
- Rate increase = liability increase / PVFS
- PVFS = Present Value of Future Salaries
- $0.102 billion / $12 billion = 0.84%
- 0.42% member
- 0.25% employer
- 0.17% state

# Summary of Cost

- FAS 2 all service: most expensive (2.64%)
- FAS 3 future service: least expensive (0.84%)
- Initially FAS 3 all service (1.74%) more expensive than FAS 2 future (1.28%)
- Eventually FAS 2 future (1.28%) more expensive than FAS 3 all service (0.84% for new entrants)

# Changing the 5-Year FAS Period

- A shorter FAS period provides a greater benefit increase to members with above average pay increases.

- The shorter the FAS period, the greater the impact of above average increases in compensation in the final year of employment

LAW ENFORCEMENT OFFICERS' AND FIRE FIGHTERS' PLAN 2 RETIREMENT BOARD

# Benefit Formula - Final Average Salary

## Initial Consideration

July 27, 2005

## 1. Issue

The LEOFF Plan 2 Retirement Board requested a briefing on Final Average Salary (FAS) used in the LEOFF Plan 2 retirement benefit formula.

## 2. Staff

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## 3. Members Impacted

As of the most recent actuarial valuation, there were 14,560 active LEOFF Plan 2 members and 316 retirees. Changing the FAS could impact all LEOFF Plan 2 members and retirees.

## 4. Current Situation

FAS is defined as the monthly average of your sixty consecutive highest-paid service months. The current benefit formula is:

2% x Years of Service x FAS

## 5. Background Information and Policy Issues

### Benefit Formula

A defined benefit plan is a retirement income plan that provides specific benefits that are defined as soon as the member joins the plan. Typically, the formula equals a specified percentage multiplied against salary multiplied by years of creditable service at a certain age.

The current LEOFF Plan 2 benefit formula at normal retirement age is:

2% x Years of Service x Final Average Salary

Service credit is provided only for service rendered as a fire fighter or law enforcement officer after establishing membership in the Plan. One service credit month is granted for each calendar month in which basic salary is received for 90 or more hours. No more than one service credit month may be obtained during any calendar month, even if basic salary is received for more than 90-hours from each of two employers in a month.

Beginning September 1, 1991, a 1/2 service credit month is granted for any month in which basic salary for at least 70-hours, but less than 90-hours, is received. A 1/4 service credit month is granted for basic salary received for less than 70-hours in a month. Years of service are calculated by dividing total service credit months by 12.

### Final Average Salary

Final average salary (FAS) uses a predetermined number of months or years to determine an average monthly salary. The LEOFF Plan 2 system uses the highest consecutive sixty service credit months (5 years) to determine the FAS. A review of other state's plans reveal there are a number of different periods used to calculate final average salary. Some systems use a period of one year, while others, like LEOFF Plan 2, use five years.

Generally, if a shorter period is used for the years of service, the FAS calculation will be higher. This is especially true as wages rise over time.

In addition to the time period used in the calculation, another integral part of the calculation is to determine what is included in salary or "Basic Salary" as it is defined in law for LEOFF Plan 2 members. Some plans may include overtime earnings, lump sum payments for deferred annual sick leave, unused accumulated vacation, unused accumulated annual leave, holiday pay or any form of severance pay.

LEOFF Plan 2 defines "Basic Salary" as salaries or wages earned by a member during a payroll period for personal services, including overtime payments and shall include wages and salaries deferred under plans established under 403(b), 414(h) and 457 of the United States Internal Revenue Code. Lump sum payments for deferred annual sick leave, unused accumulated vacation, unused accumulated annual leave, or any form of severance pay are specifically excluded from "Basic Salary".

### Final Average Salary in Other Washington State Plans

PERS Plans 2 & 3, TRS Plans 2 & 3, SERS Plans 2 & 3, WSPRS Plan 2 and PSERS, like LEOFF Plan 2, use the highest consecutive sixty-months (5 years) of service credit. PERS Plan 1, uses the greatest compensation earnable by a member during any consecutive two year period of service credit months. TRS Plan 1 uses the two highest compensated consecutive years of service for calculating average final compensation. WSPRS Plan 1 uses the average monthly salary received by a member during the member's last two years of service or any consecutive two-year period of service, whichever is greater.

What is included in salary varies among the systems and plans. For example, WSPRS Plan 1 and Plan 2 both exclude any overtime for earnings related to highway projects (construction projects) or voluntary overtime earned on or after July 1, 2001. For those state patrolmen commissioned on or after July 1, 2001 the exclusion includes lump sum payments for deferred annual sick leave, unused accumulated vacation, unused accumulated annual leave, holiday pay, or any form of severance pay. PERS Plans 2 and 3 are similar to LEOFF Plan 2.

### Final Average Salary in Other State Pension Plans

A 2004 study of "State Police" plans by *Workplace Economics, Inc*. found the most commonly used final average salary definition includes average salary for the three highest years of service earnings or average salary for the highest three consecutive years of service earnings.

In addition to the *Workplace Economics, Inc.* study, appendix A shows FAS periods for other state's police and fire fighters systems.

## 6. Supporting Information

Appendix A

WASHINGTON STATE LEGISLATURE

# Office of the State Actuary

July 6, 2005

TO: Steve Nelsen, Executive Director
LEOFF Plan 2 Retirement Board

FROM: Marty McCaulay, Associate Actuary

CC: Matt Smith, State Actuary

**SUBJECT: CHANGING THE 5-YEAR FAS PERIOD FOR LEOFF 2 RETIREMENT BENEFITS**

## Summary of Results

As requested, we estimated the cost of decreasing the 5-year Final Average Salary (FAS) period for LEOFF 2 retirement benefits to 2 years or 3 years. We prepared estimates if the 2 or 3 year averaging period applied to all years of service, or if the current 5-year period applied to past service and the 2 or 3 year period applied to future service only. Details on the costs of decreasing the FAS are shown in Exhibit 1.

**Cost Summary**

| FAS Period | Total Rate Increase | Total 2007-2009 Cost *(millions, employer plus member)* |
|---|---|---|
| 2 Years - All Service | 2.64% | $66.2 |
| 3 Years - All Service | 1.74% | $43.6 |
| | | |
| 2 Years - Future Service | 1.28% | $35.4 |
| 3 Years - Future Service | 0.84% | $23.4 |

## Members Impacted

This would impact the 14,754 active members and 521 terminated vested members, as well as new entrants. For a typical member making about $69,000 per year retiring with 20 years of service, the retirement benefit would increase from $25,300 per year using a 5-year average to $26,400 using a 3-year average on all service and $27,000 using a 2-year average on all service.

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**Analysis of Results**

Decreasing the length of the averaging period to 2 years for all service would increase the liabilities for members not in pay status by $320 million, an increase in liabilities of about 6.6%. This $320 million increase in liabilities would be divided by the present value of future salaries for the active members. The payroll is about $1 billion and the present value of future salaries is $12.159 billion. The rate increase would be about $320 million divided by $12.159 billion, or 2.64%.

Decreasing the averaging period to 3 years for all service would increase the liabilities for members not in pay status by $211 million, an increase in liabilities of about 4.4%. The rate increase would be about $211 million divided by $12.159 billion, or 1.74%.

Applying the benefit improvement to future service only would reduce the liability increase in half. Decreasing the averaging period to 2 years for future service would increase the liabilities for members not in pay status by $155 million, an increase in liabilities of about 3.2%. The rate increase would be about $155 million divided by $12.159 billion, or 1.28%. Over 25 years, the 2-year average for future service would be more expensive than the 3-year average on all service, because it is more expensive for new entrants.

Decreasing the averaging period to 3 years for future service would increase the liabilities for members not in pay status by $102 million, an increase in liabilities of about 2.1%. The rate increase would be about $102 million divided by $12.159 billion, or 0.84%.

Reducing the years in the averaging period from 5 years to 2 or 3 years would provide a larger benefit increase to members with higher pay increases prior to retirement, as illustrated in the following table. The percentage pay increases are typically higher earlier in the career, so in general, this would provide more of a benefit increase to members who terminate or retire after shorter periods of service. This plan change would also disproportionately favor members who experience above average pay increases (i.e., promotions, overtime, etc.) prior to retirement.

| FAS Period | FAS as a percent of final pay assuming 4.5% annual pay increases | FAS as a percent of final pay assuming 7.0% annual pay increases |
|---|---|---|
| 5 Years | 92% | 88% |
| 3 Years | 96% | 94% |
| 2 Years | 98% | 97% |

**Assumptions and Methods**

The results are based on preliminary 2004 valuation data and the same actuarial assumptions and methods as disclosed in the 2003 Actuarial Valuation report. We did not change retirement rates or any other assumptions. Benefit improvements were applied for all future retirees, whether currently active or terminated vested. The costs shown would be higher if combined with other benefit improvements.

**Exhibit 1 - Decrease FAS period**

| *(Dollars in Millions)* | FAS Period | Current | Increase | Total |
|---|---|---|---|---|
| **Actuarial Present Value of Projected Benefits** (The Value of the Total Commitment to all Current Members) | 2 Years - All Service | $4,800 | $320 | $5,120 |
| | 3 Years - All Service | $4,800 | $211 | $5,011 |
| | 2 Years - Future Service | $4,800 | $155 | $4,955 |
| | 3 Years - Future Service | $4,800 | $102 | $4,902 |
| **Unfunded Liability (PBO)** (The Value of the Total Commitment to all Current Members Attributable to Past Service) | 2 Years - All Service | ($426) | $165 | ($261) |
| | 3 Years - All Service | ($426) | $109 | ($317) |
| | 2 Years - Future Service | ($426) | $0 | ($426) |
| | 3 Years - Future Service | ($426) | $0 | ($426) |

**Increase in Contribution Rates:** *
(Effective 09/01/2006)

| | FAS Period | | | |
|---|---|---|---|---|
| | **2 Years All Service** | **3 Years All Service** | **2 Years Future Service** | **3 Years Future Service** |
| **Current Members** | | | | |
| Employee | 1.32% | 0.87% | 0.64% | 0.42% |
| Employer | 0.79% | 0.52% | 0.38% | 0.25% |
| State | 0.53% | 0.35% | 0.26% | 0.17% |
| Total - Current Members | 2.64% | 1.74% | 1.28% | 0.84% |
| **New Entrants**** | | | | |
| Employee | 0.64% | 0.42% | 0.64% | 0.42% |
| Employer | 0.38% | 0.25% | 0.38% | 0.25% |
| State | 0.26% | 0.17% | 0.26% | 0.17% |
| Total - New Entrants | 1.28% | 0.84% | 1.28% | 0.84% |

**For LEOFF 2, the employer pays 60% of the Employer State cost, the State pays 40%.*
***Rate change applied to future new entrant payroll and used for fiscal budget determinations only. A single supplemental rate increase, equal to the increase for current members, would apply initially for all members or employers.*

**Fiscal Budget Determinations:**

The proposal would result in higher contribution rates for all LEOFF 2 members and employers. As a result of the changes in the required contribution rates, the increase in funding expenditures is projected to be:

| **Costs** (in Millions): | **2 Year FAS All Service** | **3 Year FAS All Service** | **2 Year FAS Future Service** | **3 Year FAS Future Service** |
|---|---|---|---|---|
| **2006-2007** | | | | |
| **State:** | | | | |
| General Fund | $5.2 | $3.4 | $2.7 | $1.8 |
| Non-General Fund | $0.0 | $0.0 | $0.0 | $0.0 |
| **Total State** | **$5.2** | **$3.4** | **$2.7** | **$1.8** |
| Local Government | $7.8 | $5.1 | $4.0 | $2.6 |
| Total Employer | $13.0 | $8.5 | $6.7 | $4.4 |
| Total Employee | $13.0 | $8.5 | $6.7 | $4.4 |
| **2007-2009** | | | | |
| **State:** | | | | |
| General Fund | $13.3 | $8.8 | $7.2 | $4.7 |
| Non-General Fund | $0.0 | $0.0 | $0.0 | $0.0 |
| **Total State** | **$13.3** | **$8.8** | **$7.2** | **$4.7** |
| Local Government | $19.8 | $13.0 | $10.5 | $7.0 |
| Total Employer | $33.1 | $21.8 | $17.7 | $11.7 |
| Total Employee | $33.1 | $21.8 | $17.7 | $11.7 |
| **2006-2031** | | | | |
| **State:** | | | | |
| General Fund | $234.2 | $153.9 | $176.0 | $115.5 |
| Non-General Fund | $0.0 | $0.0 | $0.0 | $0.0 |
| **Total State** | **$234.2** | **$153.9** | **$176.0** | **$115.5** |
| Local Government | $350.1 | $230.1 | $262.3 | $172.3 |
| Total Employer | $584.3 | $384.0 | $438.3 | $287.8 |
| Total Employee | $584.3 | $384.0 | $438.3 | $287.8 |